

IN THE CLAIMS

1-25. (Canceled).

26. (New) A network relaying method for a communication network system in which a plurality of network devices are coupled via a communication path, each network device including a network relaying device which is coupled via a plurality of I/O ports to a corresponding plurality of terminals, the method comprising the steps of:

receiving a packet at a first I/O port from a source terminal coupled to the first I/O port, the packet including a header containing a packet transmission source address;

determining whether a combination of the first I/O port and the packet transmission source address coincides with a combination of an I/O port and a transmission source address that have been registered in advance with a correspondence therebetween;

when the determining step results in a determination that the combination of the first I/O port and the packet transmission source address coincides with a combination of an I/O port and transmission source address that have been registered in advance with a correspondence therebetween,

transferring the packet received at the first I/O port via a second I/O port;

when the determining step results in a determination that the combination of the first I/O port and the packet transmission source address do not have a coincidence with a combination of an I/O port and transmission source address that have been registered in advance with a correspondence therebetween:

limiting transfer of the received packet and transmitting a request for user authentication of a user to the source terminal;

receiving user authentication information sent from the source terminal in response to the request for user authentication;

executing user authentication of the user based on the user authentication information thus received and based on the packet transmission source address;

when the user is authenticated by the user authentication executed in the executing step, registering the first I/O port with a correspondence to the packet transmission source; and

transferring the packet received at the first I/O port via the second I/O port.

27. (New) A network relaying method according to Claim 26, wherein the user authentication information includes a user name and a password.

28. (New) A network relaying method according to Claim 26, wherein the transmission source address includes an IP address and a MAC address.

29. (New) A network relaying apparatus, comprising:
a plurality of I/O ports coupled to a plurality of terminals, respectively;
a communication portion for transmitting and receiving data via the plurality of I/O ports;
a relay portion which determines a transmitting I/O port of the plurality of I/O ports, from which a packet received via the communication portion from a receiving I/O port of the plurality of I/O ports is output via the communication portion; and which determines whether a combination of the receiving I/O port and a packet transmission source address contained in the packet coincides with a combination of an I/O port and a transmission source address that have been registered in advance with a correspondence therebetween,

wherein said relay portion transfers the received packet from the transmitting I/O port when the relay portion determines that the combination of the receiving I/O port and the packet transmission source address coincides with a combination of an I/O port and transmission source address that have been registered in advance with a correspondence therebetween, and wherein said relay portion requests user authentication of a user from a source terminal of said received packet when the relay portion determines that the combination of the receiving I/O port and the packet transmission source address do not have a coincidence with a combination of an I/O port and a transmission source address that have been registered in advance with a correspondence therebetween; and

an authentication portion which registers the receiving I/O port with a correspondence to the packet transmission source address when completing user authentication based on user authentication information sent from the source terminal in response to the request for user authentication.

30. (New) A network relaying apparatus according to Claim 29, wherein the user authentication information includes a user name and a password.

31. (New) A network relaying apparatus according to
Claim 29, wherein the transmission source address includes an
IP address and a MAC address.